

RESEARCH AND DEVELOPMENT, NEUCHATEL - QUARTERLY REPORT

DIVISION : RESEARCH

SUBJECT TITLE : PACK

PERIOD COVERED : JULY - SEPTEMBER 1988

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KEYWORDS : pack, label, cardboard, profile, ink, solvent,
volatile, flavor, odor, organoleptic,
sniffing, packaging, headspace, quality

OBJECTIVE

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To determine which substances in packaging materials adversely influence cigarette taste, and establish maximum acceptance levels.

RESULTS

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Validation

To confirm the tolerances proposed for residual solvents, 40 MLF HL blanks were analysed by the PM headspace GC method. The samples were taken from all PME MLF production centers. Fig. 1 shows the average total solvent and 1-ethoxy-2-propanol concentrations. Total solvent and 1-ethoxy-2-propanol concentrations are shown as a percentage of the tolerance level established by sensory analysis [1]. The total residual solvent concentrations found are lower than the tolerance level. However, 1-ethoxy-2-propanol concentrations were closer to the tolerance level. Some individual samples printed by Polylaupen exceeded the tolerance level.

Sensory evaluation

A descriptive sensory evaluation was made to correlate organoleptic changes with different residual solvent levels. The same packs were used as for the overall difference test [1]. Fig. 2 shows that increased solvent concentrations introduce the negative taste factors acidity, mouthcoating and harshness. The positive taste factors, impact taste and aroma, decrease at higher solvent concentrations.

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PLANS

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- Repeat the collective test with printed blanks.
- Establish specifications for printers including individual and total solvent tolerances.

REFERENCE

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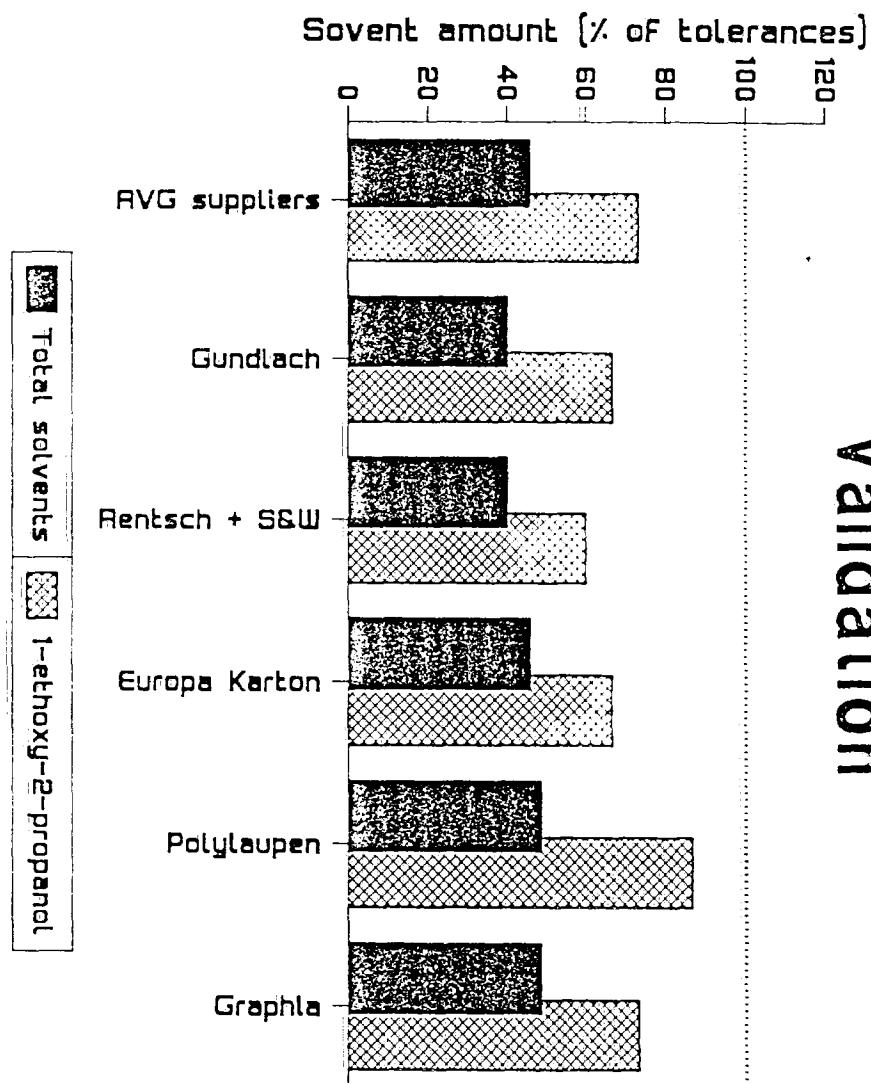
- [1] Lauper-G., Quarterly Report PACK, January-March 1988.

A handwritten signature in black ink, appearing to read "G. Lang".

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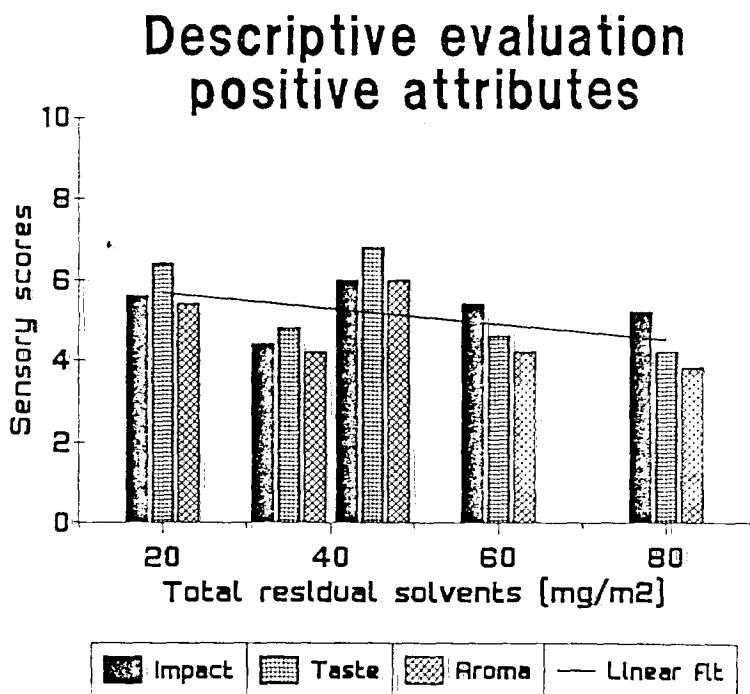
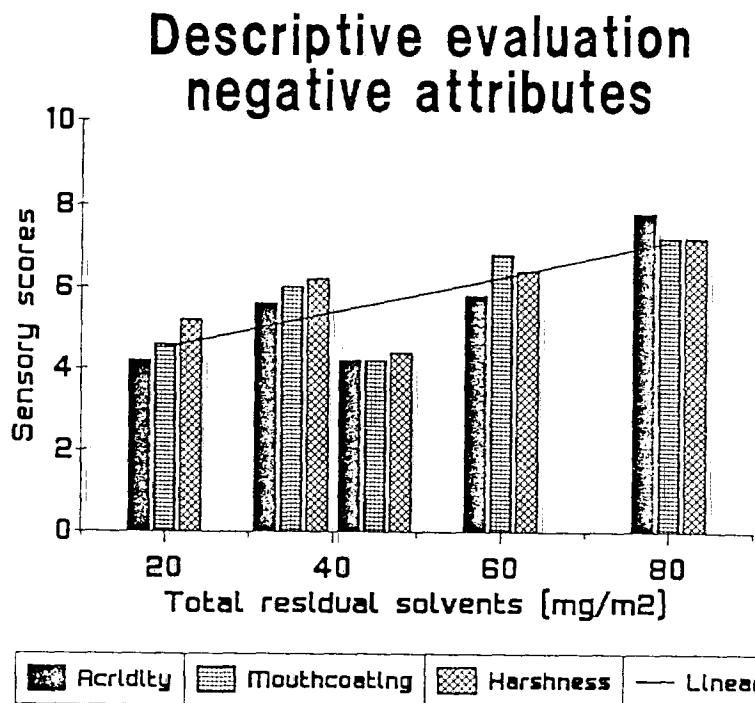
Figure 1

Residual solvents in MLF blanks Validation



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Figure 2



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